

### **REMARKS**

This Reply is intended to be completely responsive to the Final Office Action dated October 9, 2008.

### **Status**

Claims 19-23 and 42-75 are pending in the present application.

Claims 19-23 and 42-75 are rejected.

Independent claims 42, 52, 60, and 75 have been amended.

### **Examiner Interview Conducted November 26, 2008**

On November 26, 2008, Applicant's attorney conducted a telephone interview with Examiner Stewart during which previously presented independent claim 19 and the current amendments to independent claims 42, 52, 60, and 75 were discussed in light of Dwyer et al., U.S. Patent No. 7,122,056, and Mulhausler et al., U.S. Patent No. 6,524,342. The amendments to independent claims 42, 52, 60, and 75 are intended to reflect the outcome of the discussion with Examiner Stewart. As agreed to during the interview, the amendments to claims 42, 52, and 60 overcome the rejection of the claims based on Dwyer et al. Further, Applicant's attorney presented arguments that Mulhausler et al. fails to disclose, teach, or suggest all elements of previously presented independent claim 19 and of independent claims 42, 52, 60, and 75, as amended. The substance of the arguments regarding Mulhausler et al. are set forth below. While Examiner Stewart found the arguments regarding Mulhausler et al. persuasive, Examiner Stewart indicated that a closer review of Mulhausler et al. would be required. Thus, agreement regarding the rejections based upon Mulhausler et al. was not reached.

### **Claim Rejections – 35 U.S.C. § 102**

On pages 2-3 of the Office Action, the Examiner rejected claims 42-48, 50, 52-56, 58-65, 67-69, 73, and 74 as being anticipated by Dwyer et al., U.S. Patent No. 7,122,056, under 35

U.S.C. § 102(e). Applicant has amended independent claims 42, 52, and 60 to overcome the rejections based on Dwyer et al.

Independent claim 42, as amended, recites a “joint prosthesis system ... wherein the first shaft is interchangeable after implantation of the prosthesis by removing the first shaft from the intramedullary canal and replacing the first shaft with the second replacement shaft without dislodging both the body and the head from the patient.” Independent claim 52, as amended, recites a “modular joint prosthesis ... wherein the shaft may be removed from the patient after implantation of the prosthesis without also removing both the body and the articular surface.” Independent claim 60, as amended, recites a “modular joint prosthesis system ... wherein the second replacement shaft is used to replace the first shaft in the bone after implantation of the prosthesis into a patient without first removing both the body and the articular surface from the patient.”

Dwyer et al. does not identically disclose a prosthesis “wherein the first shaft is interchangeable after implantation of the prosthesis by removing the first shaft from the intramedullary canal and replacing the first shaft with the second replacement shaft without dislodging both the body and the head from the patient,” as recited in independent claim 42, “wherein the shaft may be removed from the patient after implantation of the prosthesis without also removing both the body and the articular surface,” as recited in independent claim 52, or “wherein the second replacement shaft is used to replace the first shaft in the bone after implantation of the prosthesis into a patient without first removing both the body and the articular surface from the patient,” as recited in independent claim 60.

In contrast, Dwyer et al. discloses a “modular prosthesis 100” having a “sleeve component 14,” a “stem component 18,” and a “neck component 12” having a “trunnion 26” at one end that joins “neck component 12” to “head component 16.” See col. 15, lines 63-67, col. 5, lines 48-50, col. 6, lines 31-33, and Figs. 1 and 5. The “sleeve component 14” (identified as “the body” by the Examiner) includes an “elongated bore 36” that receives both the “stem component 18” (identified as a “shaft” by the Examiner) and the “neck component 12.” Col. 6,

lines 45-47. As such, “head component 16” is joined to “sleeve component 14” via the connection of “neck component 12” to “elongated bore 36” of “sleeve component 14,” and “stem component 18” is also joined to “sleeve component 14” via the connection of “neck component 12” to “elongated bore 36” of “sleeve component 14.” See e.g., Fig. 5. Thus, as agreed to during the interview with Examiner Stewart, “stem component 18” is not removable without removing both “head component 16” and “sleeve component 14.”

Therefore, the “modular prosthesis” of Dwyer et al. does not identically disclose a prosthesis “wherein the first shaft is interchangeable after implantation of the prosthesis by removing the first shaft from the intramedullary canal and replacing the first shaft with the second replacement shaft without dislodging both the body and the head from the patient,” as recited in independent claim 42, “wherein the shaft may be removed from the patient after implantation of the prosthesis without also removing both the body and the articular surface,” as recited in independent claim 52, or “wherein the second replacement shaft is used to replace the first shaft in the bone after implantation of the prosthesis into a patient without first removing both the body and the articular surface from the patient,” as recited in independent claim 60.

In view of the amendments to independent claims 42, 52, and 60 and the arguments set forth above, Applicant respectfully asserts that claims 42-48, 50, 52-56, 58-65, 67-69, 73, and 74 are not anticipated by Dwyer et al. under 35 U.S.C. § 102(e).

#### **Claim Rejections – U.S.C. § 103(a)**

1. Rejection of Claims 49, 51, 57, 66, and 70-72 under 35 U.S.C. § 103(a) as Unpatentable over Dwyer et al.

On pages 3-4 of the Office Action, the Examiner rejected dependent claims 49, 51, 57, 66, and 70-72 under 35 U.S.C. § 103(a) as unpatentable over Dwyer et al. For the reasons discussed above, Dwyer et al. does not disclose, teach, or suggest a prosthesis “wherein the first shaft is interchangeable after implantation of the prosthesis by removing the first shaft from the

intramedullary canal and replacing the first shaft with the second replacement shaft without dislodging both the body and the head from the patient,” as recited in independent claim 42, “wherein the shaft may be removed from the patient after implantation of the prosthesis without also removing both the body and the articular surface,” as recited in independent claim 52, or “wherein the second replacement shaft is used to replace the first shaft in the bone after implantation of the prosthesis into a patient without first removing both the body and the articular surface from the patient,” as recited in independent claim 60.

Accordingly, Applicant respectfully asserts that claims 49 and 51, that depend from independent claim 42, claims 57 and 66, that depend from independent claim 52, and claims 70-72, that depend from independent claim 60, are patentable over Dwyer et al. under 35 U.S.C. § 103(a).

2. Rejection of Claim 75 under 35 U.S.C. § 103(a) as Unpatentable over Dwyer et al.

On pages 3-4 of the Office Action, the Examiner rejected independent claim 75 under 35 U.S.C. § 103(a) as unpatentable over Dwyer et al. Applicant has amended independent claim 75 to overcome the rejection based on Dwyer et al.

Independent claim 75, as amended, recites an “artificial joint system ... wherein the first shaft is removable from the central canal without removing both the body and the prosthetic head.” For the same reasons as discussed above, Dwyer et al. does not disclose, teach, or suggest a prosthesis “wherein the first shaft is removable from the central canal without removing both the body and the prosthetic head” as recited in independent claim 75. Accordingly, Applicant respectfully asserts that claim 75 is patentable over Dwyer et al. under 35 U.S.C. § 103(a).

3. Rejection of Claims 19-23, 42-51, 52-59, 60-74, and 75 under 35 U.S.C. § 103(a) as Unpatentable over Muhlhausler et al.

On pages 4-6 of the Office Action, the Examiner rejected claims 19-23, 42-51, 52-59, 60-74, and 75 under 35 U.S.C. § 103(a) as unpatentable over Muhlhausler et al., U.S. Patent No.

6,524,342. Applicant respectfully asserts that independent claim 19, as previously presented, is patentable under 35 U.S.C. § 103(a). In addition, Applicant has amended independent claims 42, 52, 60, and 75 to overcome the rejection based on Muhlhauser et al.

Independent claim 19 recites a “method of replacing a shaft of a joint prosthesis having a body, a head, and a shaft after the joint prosthesis has been implanted in a patient” including, among other steps, the step of “removing the shaft from the patient without removing both the body and the head.” Independent claim 42, as amended, recites a “joint prosthesis system” including, among other elements, “a body,” “a head,” and “a first shaft ... wherein the first shaft is interchangeable ... without dislodging both the body and the head from the patient.” Independent claim 52, as amended, recites a “modular joint prosthesis having an articular surface” including, in combination with other elements, “a body,” and “a shaft ... wherein the shaft may be removed from the patient after implantation of the prosthesis without also removing both the body and the articular surface.” Independent claim 60, as amended, recites a “modular joint prosthesis system” including, in combination with other elements, “a body,” “an articular surface,” “a first shaft ... and a second replacement shaft ... wherein the second replacement shaft is used to replace the first shaft in the bone after implantation of the prosthesis into a patient without first removing both the body and the articular surface from the patient.” Independent claim 75, as amended, recites an “artificial joint system” including, in combination with other elements, “a body,” “a prosthetic head,” and “a first shaft ... wherein the first shaft is removable from the central canal without removing both the body and the prosthetic head.”

Muhlhauser et al. does not disclose, teach, or suggest the step of “removing the shaft from the patient without removing both the body and the head,” as recited in independent claim 19. In addition, Muhlhauser et al. does not disclose, teach, or suggest a “joint prosthesis system” having “a first shaft ... wherein the first shaft is interchangeable ... without dislodging both the body and the head from the patient,” as recited in independent claim 42, a “modular joint prosthesis” having “a shaft ... wherein the shaft may be removed from the patient after implantation of the prosthesis without also removing both the body and the articular surface.” as

recited in independent claim 52, a “modular joint prosthesis system” having “a first shaft ... and a second replacement shaft ... wherein the second replacement shaft is used to replace the first shaft in the bone after implantation of the prosthesis into a patient without first removing both the body and the articular surface from the patient,” as recited in independent claim 60, or an “artificial joint system” having “a first shaft ... wherein the first shaft is removable from the central canal without removing both the body and the prosthetic head,” as recited in independent claim 75.

In contrast, Muhlhausler et al. discloses a “shoulder endoprosthesis” including “a shaft 10,” “a middle section 30 fitted onto it [shaft 10],” and “a holder 32 [that] serves to secure a head 40.” Col. 3, line 66 to col. 4, line 1 and col. 4, line 5. “The middle section 30 has a through bore 34 with internal thread 35.” Col. 4, lines 8-9. “The middle section 30 with its internal thread 35 is screwed along the axis A onto the external thread 11 of the shaft 10.” Col. 4, lines 9-11. As shown in FIG. 1, once the endoprosthesis of Muhlhausler et al. is assembled, as would be the case following implantation, “head 40” blocks “through bore 34” of “middle section 30.” Thus, it appears that “shaft 10” cannot be removed without first removing “head 40.”

In addition, the Examiner states that “the specification [of Muhlhausler et al.] clearly discloses that the shaft can be loosened during operation in order to adjust the shaft length or the rotation position of the shaft, therefore, if necessary the shaft is capable of being replaced if the shaft is damage.” Office Action page 5. However, Muhlhausler et al. states that “the adjustment of the implant along the shaft axis and the rotation about it take place intraoperatively. These adjustments of the implant are carried out at the implanted shaft.” Col. 3, lines 22-27. This mode of adjustability is consistent with a joint prosthesis having “a middle section 30” that is “fitted onto” a “shaft 10.” Col. 3, line 66 to col. 4, line 1; see also, col. 4, lines 47-49. Thus, while the prosthesis of does appear to be adjustable, Muhlhausler et al. does not appear to disclose, teach, or suggest the removal of “shaft 10” without removing “middle section 30” and “head 40.”

Accordingly, because Muhlhausler et al. fails to disclose, teach, or suggest all of the elements recited in independent claim 19, as previously presented, and in independent claims 42, 52, 60, and 75, as amended, Applicant respectfully asserts that claims 19-23, 42-51, 52-59, 60-74, and 75 are patentable over Muhlhausler et al. under 35 U.S.C. § 103(a).

### **Conclusion**

Claims 19-23 and 42-75 are pending in the present application. Independent claims 42, 52, 60, and 75 have been amended. Applicant believes that the present application is in condition for allowance. Favorable reconsideration of the application, as amended, is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by the credit card payment instructions in EFS-Web being incorrect or absent, resulting in a rejected or incorrect credit card transaction, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

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